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| 10/625,646 | 07/23/2003 | Tiecheng A. Qiao | 85505KNM | 9727 |

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09/11/2007

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| EXAMINER |
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GROSS, CHRISTOPHER M

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| ART UNIT | PAPER NUMBER |
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1639

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09/11/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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|------------------------------|---|------------------------------------|--|
| Office Action Summary | Application No. 10/625,646 | Applicant(s) QIAO ET AL. | |
| | Examiner Christopher M. Gross | Art Unit 1639 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 17-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Responsive to communications entered 4/25/2007. Claims 1-28 are pending. Claims 17-27 are withdrawn. Claims 1-16, 28 are examined herein.

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/25/2007 has been entered.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Withdrawn Rejection(s)

The rejection of claims 1,2,6,9-12 under 35 U.S.C. 102(b) as being anticipated by Dorogushin et al (Soviet Union Patent SU308662 – IDS entry 1/21/2005 transferred to PTO-892) is hereby withdrawn in view of applicant's amendments to the claims.

The rejection of claims 1,2,6,9-10,12 under 35 U.S.C. 102(b) as being anticipated by Himmelmann et al (US Patent 3480431) is hereby withdrawn in view of applicant's amendments to the claims.

Maintained Claim Rejection(s) - 35 USC § 102

Claims 1,2,6,9 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by **Bauer et al** (US Patent 5639589 – IDS entry 1/21/2005).

Please note that the above rejection has been modified from the original version to more clearly address applicants' newly amended and/or added claims and/or arguments.

Response to Arguments

Applicant argues that not all elements are taught.

Applicant's arguments have been fully but they are not deemed persuasive for the following reasons.

Specifically, applicant argues, see p 12 (4/25/2007) 'a protein microarray support' as set forth in claim 1(a) is not taught by Bauer et al. However, according to p 5 line 10 of the present specification, plastic is a commonly used support for protein microarrays and Bauer et al teach both polyester and polyethylene (i.e. plastic) support films which represent a type of plastic.

Applicant further argues, see p 12 (4/25/2007) that Bauer et al do not teach an adhesive interlayer that does not optically interfere with protein microarray applications, as set forth in claim 1(c).

This is not found persuasive because the arguments of counsel cannot take the place of evidence in the record. In re Schulze, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965); In re Geisler, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997) ("An assertion of what seems to follow from common experience is just attorney argument and not the kind of factual evidence that is required to rebut a prima facie case of obviousness.") (see MPEP 2145 I.) In the instant case, Applicant's counsel argues the adhesive layer according to Bauer et al will optically interfere with protein microarray applications, however counsel does not provide objective evidence establishing this as a fact, concerning how the adhesive interlayer according to Bauer et al would, for instance interfere with optical detection of fibronectin binding.

Furthermore, to the extent that applicant is repeating their previous arguments, entered 10/6/2006, please refer to the Office Actions mailed 4/5/2006 and 1/5/2007.

Maintained Claim Rejection(s) - 35 USC § 103

Claims 1,2,6,9,15 and 7,8 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bauer et al** (US Patent 5639589 – IDS entry 1/21/2005) in view of **Roberts et al** (US Patent 5380642).

Please note that the above rejection has been modified from the original version to more clearly address applicants' newly amended and/or added claims and/or arguments.

Response to Arguments

Applicant does not offer further arguments regarding the above obviousness rejection(s) beyond what was set forth with regard to the 35 U.S.C. § 102 rejection over **Bauer et al** and in remarks concerning various combinations entered 10/6/2006. To the extent that Applicant is merely repeating their previous argument(s), the Examiner contends that those issues were adequately addressed in the above section and Office Actions mailed 4/5/2006 and 1/5/2007, which are incorporated in their entireties herein by reference.

Claims 1,2,6,9,15 and 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bauer et al** (US Patent 5639589 – IDS entry 1/21/2005) in view of

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Arenkov et al (2000 Analytical Biochemistry 278:123-131– IDS entry 11/10/2003 transferred to PTO-892).

Please note that the above rejection has been modified from the original version to more clearly address applicants' newly amended and/or added claims and/or arguments.

Response to Arguments

Applicant argues not all elements are taught.

Applicant's arguments have been considered, but they are not deemed persuasive for the following reasons.

Specifically, applicant argues, see p 20 bottom paragraph (4/25/2007) that Arkenov et al do not teach a gelatin layer and that neither reference relates to protein microarrays.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The gelatin layer is provided by Bauer et al.

Applicant further argues, see p 21 top paragraph (4/25/2007) that none of the applied references relate to protein microarrays, however applicant's attention is respectfully invited to the title and figure 1 of Arkenov et al concern protein microchips. The examiner submits the protein microarrays are synonymous with protein microchips.

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Applicant does not offer additional arguments regarding the above obviousness rejection(s) beyond what was set forth with regard to the 35 U.S.C. § 102 rejection over Bauer et al and in remarks concerning various combinations entered 10/6/2006. To the extent that Applicant is merely repeating their previous argument(s), the Examiner contends that those issues were adequately addressed in the above section and Office Actions mailed 4/5/2006 and 1/5/2007, which are incorporated in their entireties herein by reference.

Claims 1,2,6,9,15 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bauer et al** (US Patent 5639589 – IDS entry 1/21/2005) in view of **Christopher** (US Patent 2309340).

Please note that the above rejection has been modified from the original version to more clearly address applicants' newly amended and/or added claims and/or arguments.

Response to Arguments

Applicant argues, see p 25, bottom paragraph (4/35/2007) Christopher and Bauer et al represent non-analogous art.

Applicant's arguments have been considered, but they are not deemed persuasive for the following reasons.

In response to applicant's argument that Christopher and Bauer et al represent nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem

with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both Christopher et al Bauer et al concern gelatin compositions.

Applicant does not offer additional arguments regarding the above obviousness rejection(s) beyond what was set forth with regard to the 35 U.S.C. § 102 rejection over Bauer et al and in remarks concerning various combinations entered 10/6/2006. To the extent that Applicant is merely repeating their previous argument(s), the Examiner contends that those issues were adequately addressed in the above section and Office Actions mailed 4/5/2006 and 1/5/2007, which are incorporated in their entireties herein by reference.

Claims 1,2,6,9,15 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bauer et al** (US Patent 5639589 – IDS entry 1/21/2005) in view of **Bonderman** (US Patent 5348852).

Please note that the above rejection has been modified from the original version to more clearly address applicants' newly amended and/or added claims and/or arguments.

Response to Arguments

Applicant argues, see p 29 (4/25/2009) that the gelatin according to Bonderman et al is incapable of forming the layered structure of the claimed subject matter because

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of its resistance to gelation and thus the combination of Bauer et al and Bonderman would provide a protein microarray inoperable for its intended use.

However, as mentioned in the last office action, applicant's attention respectfully invited to column 4, line 5 of Bonderman et al which states that "the composition is gelatin from cold water fish skin, which has demonstrated a gelling temperature substantially lower than that of typical land animals such as cows or pigs" Thus, gellation still occurs, and absent evidence to the contrary, the fish gelatin according to Bonderman et al is fully capable of forming a layer, albeit at a lower temperature.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., gelation at room temperature) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant does not offer further arguments regarding the above obviousness rejection(s) beyond what was set forth with regard to the 35 U.S.C. § 102 rejection over Bauer et al and in remarks concerning various combinations entered 10/6/2006. To the extent that Applicant is merely repeating their previous argument(s), the Examiner contends that those issues were adequately addressed in the above section and Office Actions mailed 4/5/2006 and 1/5/2007, which are incorporated in their entireties herein by reference.

Claims 16 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bauer et al** (US Patent 5639589 – IDS entry 1/21/2005) **in view of Arenkov et al** (2000 Analytical Biochemistry 278:123-131– IDS entry 11/10/2003 transferred to PTO-892) as applied to claims 1,2,6,9,15 and 3-5 above, and further in view of **Cone et al** (US Patent 2235202).

Please note that the above rejection has been modified from the original version to more clearly address applicants' newly amended and/or added claims and/or arguments.

Response to Arguments

Applicant argues, see p 34, top paragraph (4/25/2007) Bauer et al in view of Arkenov and Cone et al represent non-analogous art.

Applicant's arguments have been considered, but they are not deemed persuasive for the following reasons.

In response to applicant's argument that Cone et al and Bauer et al in view of Arkenov represent nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both Cone et al and Bauer et al in view of Arkenov concern gelatin compositions.

Applicant does not offer additional arguments regarding the above obviousness rejection(s) beyond what was set forth with regard to the 35 U.S.C. § 102 rejection over

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Bauer et al and 35 U.S.C. § 103 rejection over Bauer et al in view of Arkenov et al. To the extent that Applicant is merely repeating their previous argument(s), the Examiner contends that those issues were adequately addressed in the above sections which are incorporated in their entireties herein by reference.

New Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 1,2,6,9,15 and 10-12 rejected under 35 U.S.C. 103(a) as being unpatentable over **Bauer et al** (US Patent 5639589 – IDS entry 1/21/2005) in view of **Dorogushin et al** (Soviet Union Patent SU308662 – IDS entry 1/21/2005 transferred to PTO-892 4/5/2006)

Bauer et al teach, throughout the document and especially the abstract and column 1 lines 10-15, a polyester film support with a robust gelatin subbing layer and is relied on as above and the previous office actions mailed 4/5/2006 and 1/5/2007.

Bauer et al do not teach adding acetone (elected species) as an organic solvent to the gelatin layer(s) as set forth in claims 10-11. Bauer et al do not teach a gelatin dispersing aid, such as set forth in claim 12.

Dorogushin, et al, in the abstract teach a film comprising two layers: a gelatin sublayer for adhesion which is applied with acetone, ethanol and phthalic acid and a copying layer, also comprising gelatin.

The ethanol and acetone of Dorogushin et al read on the 'organic solvent or a mixture of solvents' of claim 10 and the acetone of claim 11 (elected species).

According to page 7 of the specification, an organic acid can act as dispersion aid, thus the phthalic acid of Dorogushin et al reads on the dispersing aid of claim 12.

It would have been *prima facie* obvious for one of ordinary skill in the art, at the time the claimed invention was made to apply the method for generating robust gelatin subbing layers of Bauer et al toward the film developed by Durogushin et al.

One of ordinary skill in the art would have been motivated to apply the method for generating robust gelatin subbing layers of Bauer et al toward the film developed by Durogushin et al because it is desirable to provide a subbing system that provides adhesion under both wet and dry conditions, as noted by Bauer et al in column 1, lines 32-25.

One of ordinary skill in the art would have had a reasonable expectation of success in applying the method for generating robust gelatin subbing layers of Bauer et al toward the film developed by Durogushin et al because both are concerned with film manufacturing, therein the film developed by Durogushin lies well within the scope of teaching of Bauer et al.

New Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2-5 each recite the limitation "the support" each in line 1. There is insufficient antecedent basis for this limitation in the claim.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Gross whose telephone number is (571)272-4446. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. Douglas Schultz can be reached on 571 272-0763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Christopher M Gross
Examiner
Art Unit 1639

cg

/Jon D. Epperson/
Primary Examiner, AU 1639